

chain nodes :

26

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 9-14 9-17 10-11 11-12
12-13 14-15 14-22 15-16 15-25 16-17 16-18 17-21 18-19 19-20 20-21 22-23 23-24
24-25

exact/norm bonds :

5-7 6-9 8-9 9-14 9-17 15-16

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13 14-15 14-22 15-25
16-17 16-18 17-21 18-19 19-20 20-21 22-23 23-24 24-25

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom

Generic attributes :

26:

Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : 2 or more
Type of Ring System : Monocyclic

Element Count :

Node 26: Limited

C,C4

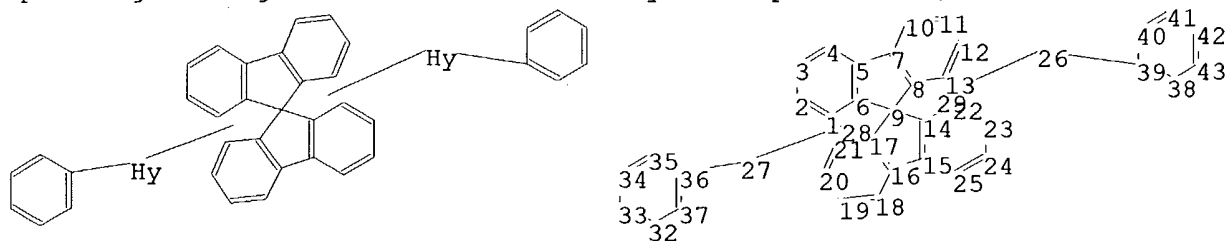
N,N2

O,O0

S,S0

=>

Uploading C:\Program Files\Common Files\System\Mapi\1033\NT\10759046.str



chain nodes :

26 27

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
 24 25 32 33 34 35 36 37 38 39 40 41 42 43

chain bonds :

26-39 27-36

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 9-14 9-17 10-11
 11-12 12-13 14-15 14-22 15-16 15-25 16-17 16-18 17-21 18-19 19-20 20-21
 22-23 23-24 24-25 32-33 32-37 33-34 34-35 35-36 36-37 38-39 38-43 39-40
 40-41 41-42 42-43

exact/norm bonds :

5-7 6-9 8-9 9-14 9-17 15-16 26-39 27-36

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13 14-15 14-22
 15-25 16-17 16-18 17-21 18-19 19-20 20-21 22-23 23-24 24-25 32-33 32-37
 33-34 34-35 35-36 36-37 38-39 38-43 39-40 40-41 41-42 42-43

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:CLASS
 29:CLASS 32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom
 40:Atom 41:Atom 42:Atom 43:Atom

Generic attributes :

26:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Number of Hetero Atoms : 2 or more

Type of Ring System : Monocyclic

27:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Number of Hetero Atoms : 2 or more

Type of Ring System : Monocyclic

Element Count :
 Node 26: Limited
 C,C4
 N,N2
 O,O0
 S,S0

Node 27: Limited
 C,C4
 N,N2
 O,O0
 S,S0

L1 STRUCTURE UPLOADED

=> d l1
 L1 HAS NO ANSWERS
 L1 STR
 *** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

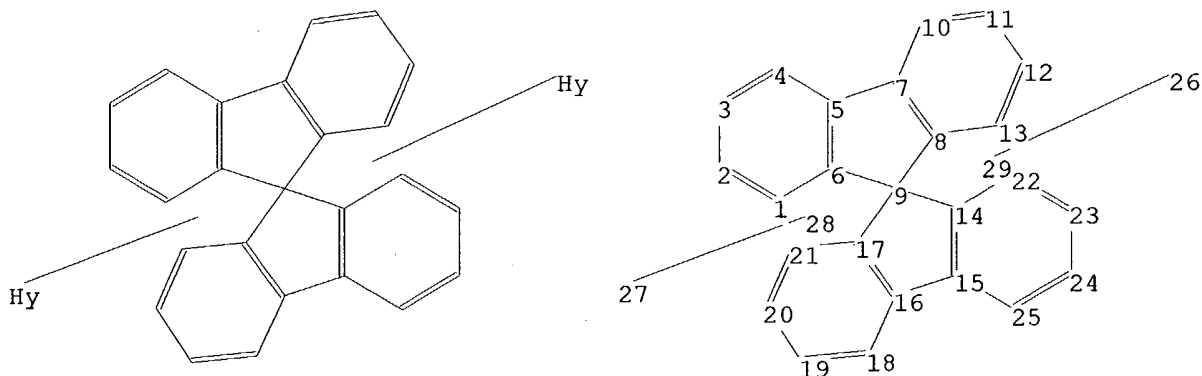
=> s l1 sss sam
 SAMPLE SEARCH INITIATED 19:22:19 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 590 TO ITERATE

100.0% PROCESSED 590 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 10343 TO 13257
 PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=>
 Uploading C:\Program Files\Common Files\System\Mapi\1033\NT\10759046 (a).str



chain nodes :

26 27

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 9-14 9-17 10-11
11-12 12-13 14-15 14-22 15-16 15-25 16-17 16-18 17-21 18-19 19-20 20-21
22-23 23-24 24-25

exact/norm bonds :

5-7 6-9 8-9 9-14 9-17 15-16

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13 14-15 14-22
15-25 16-17 16-18 17-21 18-19 19-20 20-21 22-23 23-24 24-25

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:CLASS
29:CLASS

Generic attributes :

26:

Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : 2 or more
Type of Ring System : Monocyclic

27:

Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : 2 or more
Type of Ring System : Monocyclic

Element Count :

Node 26: Limited

C,C4

N,N2

O,O0

S,S0

Node 27: Limited

C,C4

N,N2

O,O0

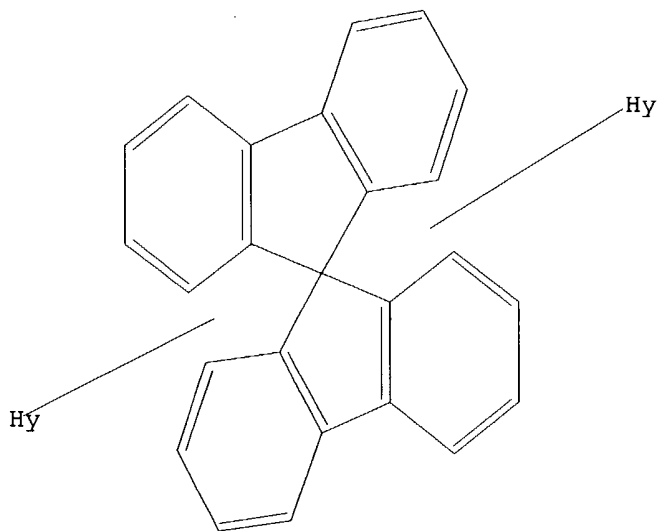
S,S0

L3 STRUCTURE UPLOADED

=> d l3

L3 HAS NO ANSWERS

L3 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l3 sss sa

COMBINATION OF STRUCTURE AND TEXT TERMS NOT VALID

The query entered contains both search terms created by structure-building or screen commands and text search terms. L#s created via the STRUCTURE or SCREEN commands must be searched in the structures files separately from text terms or profiles. The L# answer sets from structure searches can be used in crossover searches and can be combined with text terms.

=> s l3 sss sam

SAMPLE SEARCH INITIATED 19:23:16 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 770 TO ITERATE

100.0% PROCESSED 770 ITERATIONS

0 ANSWERS

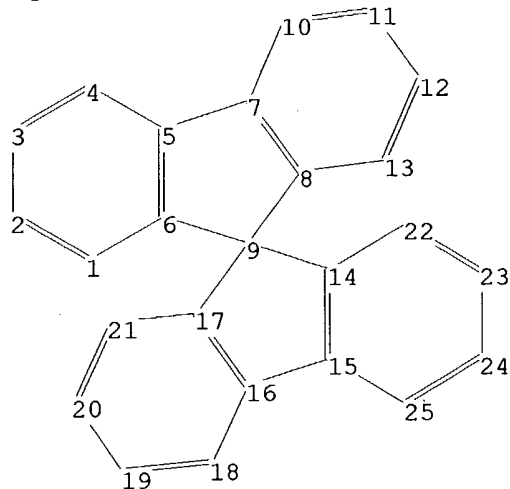
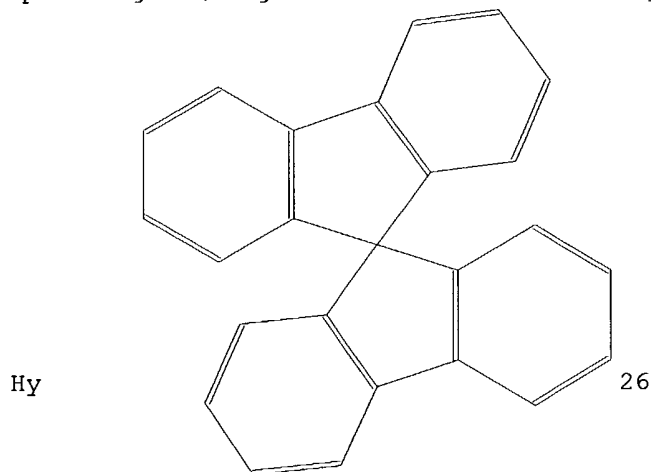
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 13736 TO 17064
 PROJECTED ANSWERS: 0 TO 0

L4 0 SEA SSS SAM L3

=>

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chain nodes :

26

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
 24 25

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 9-14 9-17 10-11
 11-12 12-13 14-15 14-22 15-16 15-25 16-17 16-18 17-21 18-19 19-20 20-21
 22-23 23-24 24-25

exact/norm bonds :

5-7 6-9 8-9 9-14 9-17 15-16

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13 14-15 14-22
 15-25 16-17 16-18 17-21 18-19 19-20 20-21 22-23 23-24 24-25

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom

Generic attributes :

26:

Saturation : Unsaturated
 Number of Carbon Atoms : less than 7
 Number of Hetero Atoms : 2 or more
 Type of Ring System : Monocyclic

Element Count :

Node 26: Limited

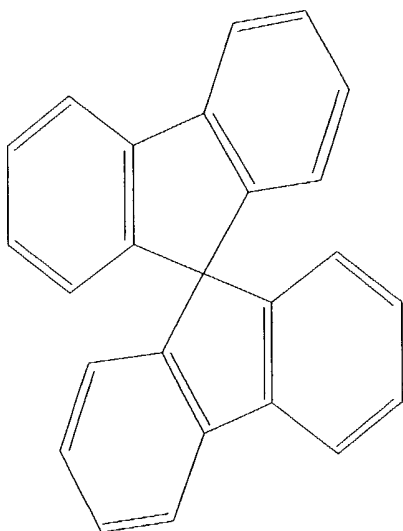
C,C4
N,N2
O,O0
S,S0

L5 STRUCTURE UPLOADED

=> d 15

L5 HAS NO ANSWERS

L5 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 15 sss sam

SAMPLE SEARCH INITIATED 19:24:05 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 770 TO ITERATE

100.0% PROCESSED 770 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 13736 TO 17064

PROJECTED ANSWERS: 0 TO 0

L6 0 SEA SSS SAM L5

=> s 15 sss ful

FULL SEARCH INITIATED 19:24:14 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 15746 TO ITERATE

10/759,046

100.0% PROCESSED 15746 ITERATIONS
SEARCH TIME: 00.00.01

1 ANSWERS

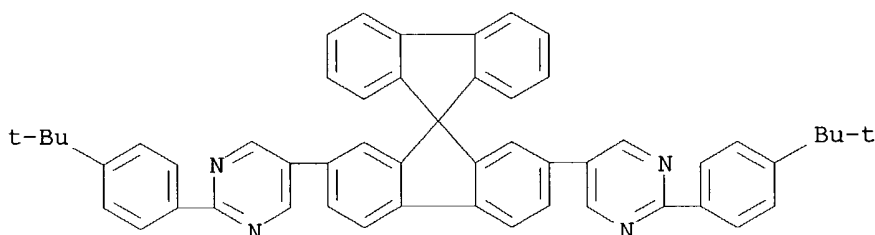
L7 1 SEA SSS FUL L5

=> => s 17

L8 1 L7

=> d 18 bib,ab,hitstr

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2002:542530 CAPLUS
 DN 137:239381
 TI Highly bright blue organic light-emitting devices using
 spirobifluorene-cored conjugated compounds
 AU Wu, C. C.; Lin, Y. T.; Chiang, H. H.; Cho, T. Y.; Chen, C. W.; Wong, K.
 T.; Liao, Y. L.; Lee, G. H.; Peng, S. M.
 CS Graduate Institute of Electronics Engineering, Graduate Institute of
 Electro-Optical Engineering, Department of Electrical Engineering,
 National Taiwan University, Taipei, 10617, Taiwan
 SO Applied Physics Letters (2002), 81(4), 577-579
 CODEN: APPLAB; ISSN: 0003-6951
 PB American Institute of Physics
 DT Journal
 LA English
 AB An efficient and morphol. stable pyrimidine-containing spirobifluorene-cored
 oligoaryl, 2,7-bis[2-(4-tert-butylphenyl)pyrimidine-5-yl]-9,9'-
 spirobifluorene (TBPSF), as an emitter or a host for blue organic
 light-emitting devices (OLEDs), is reported. The steric hindrance
 inherent with the mol. structure renders the material a record-high
 neat-film photoluminescence (PL) quantum yield of 80% as a pure blue
 emitter (PL peak at 430 nm) of low mol. weight, and a very high
 glass-transition temperature (T_g) of 195°. Blue OLEDs employing this
 compound as the emitter or the emitting host exhibit unusual endurance for
 high currents over 5000 mA/cm². When TBPSF was used as a host for
 perylene in a blue OLED, maximal brightness of .apprx.80000 cd/m² had been
 achieved, representing the highest values reported for blue OLEDs under
 d.c. driving.
 IT **459216-40-1**
 RL: DEV (Device component use); PEP (Physical, engineering or chemical
 process); PRP (Properties); PYP (Physical process); PROC (Process); USES
 (Uses)
 (highly bright blue organic light-emitting devices using
 spirobifluorene-cored conjugated compds.)
 RN 459216-40-1 CAPLUS
 CN Pyrimidine, 5,5'-(9,9'-spirobi[9H-fluorene]-2,7-diyl)bis[2-[4-(1,1-
 dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/759,046

=> => d his

(FILE 'HOME' ENTERED AT 19:21:48 ON 20 MAY 2004)

FILE 'REGISTRY' ENTERED AT 19:21:52 ON 20 MAY 2004

L1 STRUCTURE UPLOADED
L2 0 S L1 SSS SAM
L3 STRUCTURE UPLOADED
L4 0 S L3 SSS SAM
L5 STRUCTURE UPLOADED
L6 0 S L5 SSS SAM
L7 1 S L5 SSS FUL

FILE 'CAPLUS' ENTERED AT 19:24:23 ON 20 MAY 2004

L8 1 S L7

FILE 'CAOLD' ENTERED AT 19:25:06 ON 20 MAY 2004

=> s 17

L9 0 L7

=> log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.42	162.50

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
0.00	-0.69

CA SUBSCRIBER PRICE

STN INTERNATIONAL LOGOFF AT 19:25:17 ON 20 MAY 2004